

Seventy-five years ago this Feb. 17, Unit 2 at the Jefferies Hydroelectric Station came online and Santee Cooper officially entered the electricity generating business. Unit 4 passed the 75-year mark on March 5. Unit 1 saw that milestone on April 24, followed by the other two Jefferies hydro units in June and July.

I invite you to learn more about the history of Jefferies in this issue of PowerSource. It is an interesting story, one that started as an economic development program, was accelerated as a national defense project and stands today as a testament to solid engineering and construction.

Santee Cooper signed a contract to provide electricity to Berkeley Electric Cooperative in 1942 – on April 21, to be exact. That was our first partnership with an electric cooperative, and today we proudly deliver electricity wholesale to Central Electric Power Cooperative, which in turn provides it to the state’s 20 local cooperatives – serving all 46 counties in South Carolina. Central is Santee Cooper’s largest customer. Santee Cooper and the electric cooperatives have deep roots in this state, and we are all focused on serving the people who depend on our power – through keeping their lights on, and through improving their communities through economic development.

Santee Cooper also proudly provides wholesale power to several municipalities, from Georgetown and Bamberg in the Lowcountry to the Upstate’s Piedmont Municipal Power Agency. We count more municipalities among our direct-serve, retail base stretching from the Grand Strand into Berkeley County – where we first generated electricity in 1942. As it is with the cooperatives, our commitment to each of these localities includes reliable, affordable power, excellent customer service and economic development.



As Santee Cooper begins our second 75 years, it is appropriate to recall our mission: to be the state’s leading resource for improving the quality of life for all South Carolinians. That is certainly my focus and pledge to you.

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**75 Years
Since
Santee
Cooper's
First
Flow Of
Electricity**

Willard Strong

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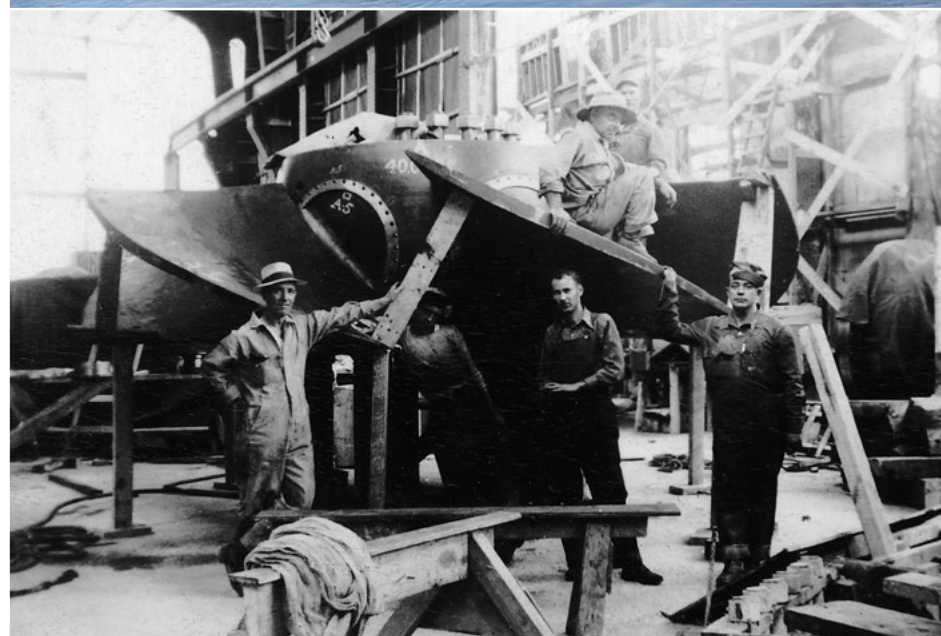
Photo by Frank Haskell

Workers during the construction of the Santee Cooper Hydroelectric and Navigation Project (1939-42) put wooden scroll-case forms into position at the Pinopolis Power Plant near Moncks Corner. Concrete was poured later to complete the massive water intakes that turn five turbines.



75
YEARS SINCE

SANTEE COOPER'S FIRST FLOW OF POWER



Workers gather around one of the 40,000 h.p. adjustable-blade hydroelectric turbines prior to installation at the Pinopolis Power Plant.

BY WILLARD STRONG

JEFFERIES HYDRO PLANT

The Jefferies Hydroelectric Station, which stands tall beside the Tailrace Canal, is noted for its distinctive art deco architecture that was popular during the 1930s and early 1940s.

ON FEB. 17, 1942,

as war raged in Europe and the Pacific, a significant event in the history of South Carolina occurred.

Inside a concrete hydroelectric facility, on a newly created lake and canal 33 miles north of Charleston, S.C., a turbine turned officially for the first time. And thus, the dream of the Santee Cooper Hydroelectric and Navigation Project became a reality. Some said the project would never be built. Some said the two lakes the project created would not hold water. And some said there would not be enough demand for the power it would generate.

Today, 75 years later, Santee Cooper has outlasted its critics from the 1930s, and even earlier. To understand Santee Cooper today, one must go back into history.

The Santee and Cooper Connection Began in Colonial Times

Even before the American Revolution (1775-1783), South Carolinians dreamed of using the state's rivers for a flow of commerce from the Piedmont, through the Midlands and to the Lowcountry. After the war, the General Assembly chartered a company "for the inland navigation between the Santee and Cooper rivers."

Under the leadership of Gov. William Moultrie, Revolutionary War heroes Gen. Francis Marion and Gen. Thomas Sumter, and other leaders such as John Rutledge and Henry Laurens, the 22-mile long Santee Canal was constructed from 1793 to 1800. At a cost of \$650,000, it linked the two rivers, enabling cargo-laden barges from as far as 90 miles above Columbia to travel all the way to the port of Charleston.

However, nature and the Industrial Revolution intervened. Drought periodically dried up the canal. Steamships, followed by the railroads, provided faster and cheaper shipping. By 1850, the General Assembly revoked the canal company's charter and the canal was largely forgotten.

The concept of again connecting the Santee and Cooper rivers to support commerce was reborn in the 1920s as a dream of T.C. Williams, a Columbia businessman and entrepreneur. Williams also firmly believed that a lowland hydroelectric project could provide that link.

As owner of the Columbia Railway and Navigation Co., Williams was in the transportation business. He had the vision of carving out two huge lakes and building a navigation lock that would provide a waterway from Columbia to Charleston for his steam-powered boats.

Williams surveyed the swamps and woodlands of the Lowcountry, and soon developed plans for his massive undertaking combining hydropower and inland navigation. In 1926, Williams obtained a license from the Federal Power Commission. But his dream came crashing down with the Great Depression.

Project Was Seen as Way for State to Recover

In 1933, as South Carolina struggled to pull out of the economic doldrums, Williams' dream was resurrected by a group of resourceful legislators including state Sens. Richard M. Jefferies and J. Strom Thurmond. They obtained a promise in 1935 from President Franklin D. Roosevelt to federally fund the project.



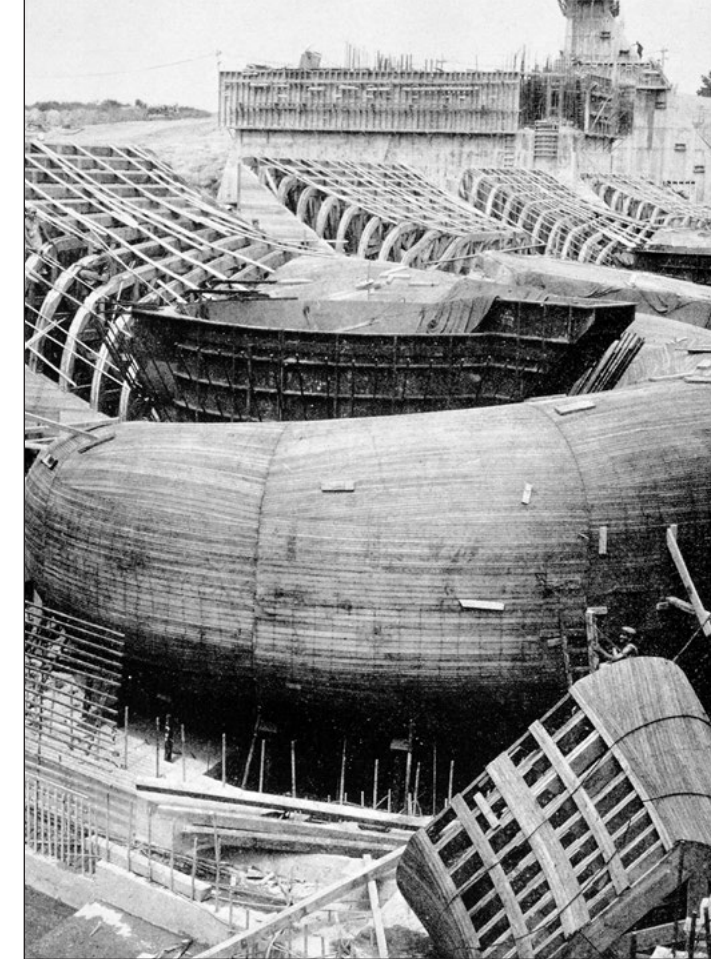
Top, from left: Workers provide a visual sense of scale to the massiveness of the transformer outside of the Pinopolis Power Plant.

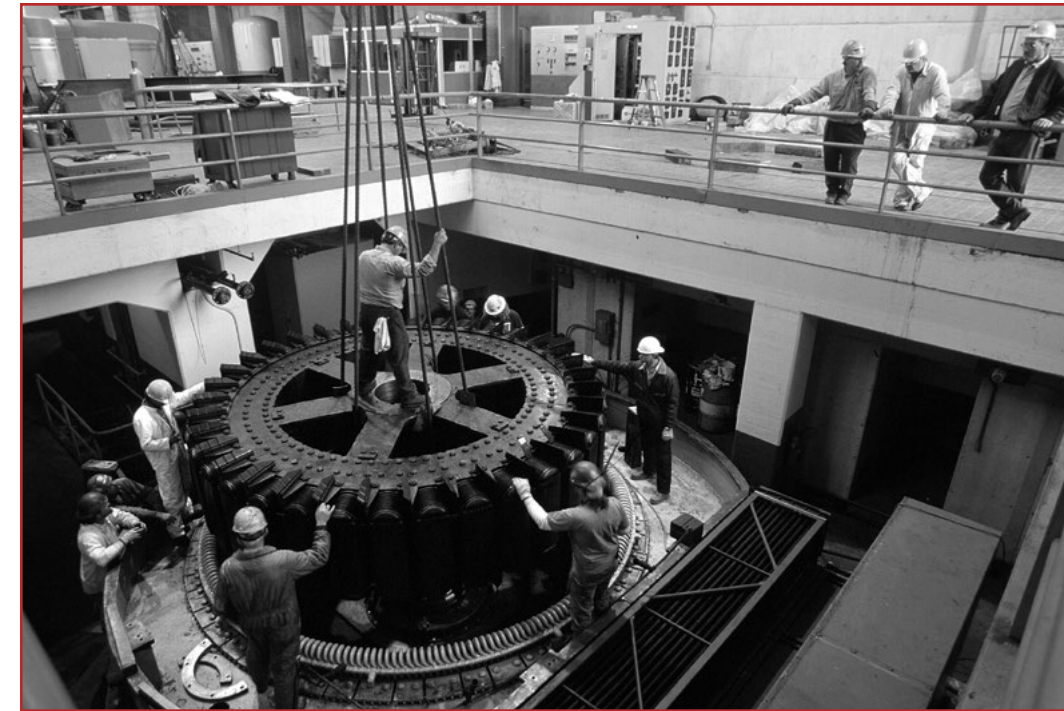


The Pinopolis Lock has two massive gates, one on Lake Moultrie and other on the Tailrace Canal, allowing watercraft to be raised or lowered 75 feet between the two bodies of water. The lock, 60 feet wide and 180 feet long, holds 6 million gallons of water taken from Lake Moultrie.

Intake and scroll-case forms are made of wood, and are shown prior to the pouring of concrete. Once completed they allowed water passage to turn the mighty turbines at the Pinopolis Power Plant.

Bottom: A construction crane towers above the Pinopolis Power Plant during construction.





Far left:
The scene as steel was going up and the powerhouse, where the five hydroelectric units would be installed at the Pinopolis Power Plant, began to take shape.

Left:
Last year, Unit 4 at the Jefferies Hydroelectric Station was rebuilt with a 20 percent increase in generating capability.

In the General Assembly, legislators took note of the Great Depression initiatives being proposed in Washington under President Roosevelt's "New Deal" administration. They determined that the rural areas of South Carolina, among the last in the country with no real plans for power, should share in the benefits of electrification by building the Santee Cooper project.

Other similar projects across the nation were in the works, such as the Tennessee Valley Authority's massive plan for dams and hydropower. With untiring support from Charleston Mayor Burnet Maybank, U.S. Sen. James F. Byrnes persuaded the president that lighting up and energizing the state's rural areas, where 93 percent of the people were living without electricity, could advance significant economic recovery.

The means for doing that was to create the power-producing, state-owned utility that came to be known as Santee Cooper. Electrifying the rural areas would improve the quality of life for those who lived there, Byrnes insisted. It would also provide the means to create jobs by allowing for the

geographical expansion of business and industry, which at the time were clustered primarily in the state's urban areas.

To be eligible for federal funding to finance the project, Washington required that the General Assembly create a state-chartered entity in order for the project to move forward. After considerable political debate, Gov. Ibra Blackwood signed legislation on April 7, 1934, creating the South Carolina Public Service Authority, Santee Cooper's formal name. The Authority's purpose was to construct and operate the Santee Cooper Hydroelectric and Navigation Project.

Finally, on April 18, 1939, work began on the largest land-clearing project in U.S. history.

**CONSTRUCTION
PROCEEDED AT A
NONSTOP PACE FOR
27 SOLID MONTHS.**

Muscles, mules and machines were used to clear swamps and woods, build the dams and dikes, and construct a powerhouse and navigation lock a few miles northwest of

Moncks Corner in the community known as Pinopolis.

Establishing a malaria-control program by fighting mosquito breeding grounds was the first job done and a benefit for the entire region, as malaria was a serious public health problem at the time. Then came the clearing and land development. Approximately 177,000 acres were acquired for the project, with about 161,000 surface acres comprising lakes Marion and Moultrie in five counties: Berkeley, Calhoun, Clarendon, Orangeburg and Sumter.

Nearly 13,000 workers, many taken off the relief rolls in every county of the state, were hired and work camps built. With land cleared for impoundment of the two lakes, entire communities had to be relocated. Whenever possible, these communities were kept intact and many families ended up with more land or newer homes than when the project started. Some families received new screened-in porches, and even chickens.

WHAT'S IN A NAME?

THEN AND NOW

The Santee Reservoir was Lake Marion's original name, changed by the General Assembly in 1944 to honor Gen. Francis Marion, the "Swamp Fox."

The Pinopolis Reservoir was Lake Moultrie's original name and it was changed that same year to honor Gen. William Moultrie, who also served as governor.

The Pinopolis Power Plant was the hydroelectric facility's original name, changed by the General Assembly in 1966 to honor former state Sen. Richard M. Jefferies, an early enthusiast of the project and Santee Cooper's chief executive from 1943 until 1964.

Ninety-three cemeteries and more than 6,000 graves also had to be relocated, the most sensitive part of the resettlement program. Many families chose to have their loved ones remain in perpetual repose under the flooded waters. More than 200 million board feet of timber was harvested during the clearing operation, and sold in a manner that did not disrupt the economic structure of the lumber market.

Construction initially began at Pinopolis. Workers excavated two reservoirs comprising 225-square miles and built 40 miles of dams and dikes. This included the 26-mile long earthen dike that reaches 78 feet above the coastal plain. The Pinopolis Dam included the hydroelectric station and navigation lock, the highest single-lift lock in the world at the time.

The lock is 60 feet wide and 180 feet long. The touted demand for regular commercial barge traffic between the port of Charleston and a dock area in Cayce, S.C., is one aspect of the Santee Cooper project that never panned out. The lock is primarily used by pleasure craft during the boating season, and operating the lock for fish passage is also a rite of spring.

However, Santee Cooper does use the lock for its own barge that assists in maintaining navigation markers on the lakes and transmission lines in such locations as the Waccamaw River. Of note, a major component for the V.C. Summer Nuclear Station's expansion project was shipped up the Cooper River from Charleston and through the lock several years ago, and then trucked from Lake Marion to the Fairfield County worksite.

On the banks of the 4-mile-long Tailrace Canal, adjacent to the hydroelectric station, a switchyard was built, the initial hub of the transmission system for power generated by Santee Cooper. From this switchyard flowed electricity for distribution systems, electric cooperatives and major industrial users.

On the Santee River, an 8-mile-long earthen dam better controlled the periodic and life and property-threatening floods of the past. A 3,400-foot long spillway was built to control floodwaters. Its 62 massive floodgates allowed the spilling of excess water.

To build the Santee Cooper project, 41 million cubic yards of earth were moved and 3.1 million cubic yards of concrete were poured. The total cost was \$64.8 million, with 55 percent of the cost a federal loan and 45 percent a federal grant. The project was overseen by the federal Public Works Administration and much of the labor was provided by the Works Progress Administration.

First Flow of Power

Feb. 17, 1942, was eagerly anticipated by the firm where the first flow of power would go: Pittsburgh Metallurgical Co., a defense contractor in North Charleston. Later known as Macalloy, the company made ferrochromium, a key defense metal used to harden steel for ships and tanks.

As Unit 2 at the Pinopolis Power Plant spun to life, Santee Cooper's critical role in the war effort was just beginning. Santee Cooper served the Charleston Naval Shipyard and the Charleston Naval Base through World War II, the Cold War and until they were shuttered in 1993.



Photo by Paul Zoeller

Above:
Sunlight
streams into
the Jefferies
Hydroelectric
Station, which
still makes
reliable power
today as it
did in 1942.

Today, Joint Base Charleston, formerly the Charleston Air Force Base, is a direct serve customer of Santee Cooper.

Unit 4 followed Unit 2 by just a couple of weeks, coming online on March 5, 1942. Both units were recently refurbished and returned to service last year, with improvements including the latest hydroelectric technology – and a 20 percent increase in generating capability, to about 36 megawatts each.

Subsequent units came online later in 1942 and, although not rebuilt, still operate. There are five hydro units at Jefferies: units 1, 2, 3, 4 and 6. There is no Unit 5, although placement was provided for it in the original plan. It was later determined there was not enough lake inflow for six units. In 1950, a

2-MW hydroelectric facility was added at the Santee Dam.

"Units 2 and 4 are bigger and better than ever, and hopefully will be able to run as long as the original equipment did," said Jody Perry, longtime Jefferies employee and current superintendent of operations. "They are state-of-the-art hydros now."

Since that Tuesday 75 years ago, Santee Cooper branched out into other ways to generate electricity: with coal, natural gas, nuclear and renewables. For its customers, including the electric cooperatives, that depend on Santee Cooper for power, the original hydroelectric project and its purpose works today as intended three-quarters of a century ago.

SWIFT GROWTH CURRENT CATCHES WATER SYSTEMS

BY MOLLIE GORE

PHOTOGRAPHY BY
PAUL ZOELLER

Water has inspired many artists through time, from poets who penned of its power to painters who captured its beauty on canvas.

As a muse, water is abundant. As a drinkable resource, it's much scarcer. Three-fourths of the planet's surface is water, but 97 percent of it is salt water and most of the rest is captured in glaciers or underground. Relatively speaking, that leaves just a few drops suitable for human consumption.

Fortunately for South Carolina, there is plenty of suitable water available in Lake Marion and Lake Moultrie, which together form the state's largest freshwater system. The lakes are home to two modern water treatment systems serving nearly 200,000 people, with plenty of room to grow.

Santee Cooper operates both plants, which are governed by separate multi-jurisdiction agencies that are role models for public-entity cooperation. Expansion is already underway at both plants, as they prepare for not only new residents, but a burgeoning industrial scene that will likely drive continued population growth for years to come.

"Dependable water is crucial to our health and quality of life. It is also vital to business, tourism and other activities that create and sustain jobs and economic prosperity," said Pamela Williams, Santee Cooper senior vice president of corporate services. "This is directly related to Santee Cooper's mission, to be a leading resource for improving the quality of life for all South Carolinians."

Below:
Cranes mark
the spot of the
new treatment
module being
built next to the
existing modules
at the Santee
Cooper Regional
Water System on
Lake Moultrie.



Opposite,
clockwise
from top:

Brian Lynch,
water systems
manager for
Santee Cooper,
William Flowers,
mechanic A, and
Darrel Wadford,
water system
supervisor, monitor the
facility and
water usage
from a control
center at the
Santee Cooper
Regional
Water System.

New underground
lines will supply
the chemicals
used to treat water
at the Santee
Cooper Regional
Water System on
Lake Moultrie.

The interior
of the Lake
Marion Regional
Water System.

SANTEE COOPER REGIONAL WATER SYSTEM

The Santee Cooper Regional Water System, on Lake Moultrie, opened in 1994 with a permit to produce up to 36 million gallons of drinking water per day (mgd). The Moultrie plant currently has the capacity to produce 28 mgd. Sometime this year, projections show, customer demand will outpace that 28 mgd capacity.

Already, water demand is surging. The Moultrie system treated and delivered 6,856 million gallons of water in 2016, a 9 percent increase over 2015. And the plant set a monthly demand record in August, at 709 million gallons.

A larger Moultrie plant should be operating by this fall. The ongoing \$27 million expansion will increase capacity to 40 mgd by adding an additional treatment module (also known as a treatment train) to the two already in service, and installing additional bulk chemical storage. Four new raw water pumps have already been added to deliver more water to this bigger, better treatment plant.

“This is the largest project we’ve undertaken since the Santee Cooper Regional Water System opened more than two decades ago,” noted Brian Lynch, water systems manager for Santee Cooper. “Even so, the expanded system will use less water than the lake loses to evaporation on a windy or hot day. The amount of water we pull off the lake is negligible.”

The Moultrie system serves the Lake Moultrie Water Agency and its four members: Berkeley County Water and Sanitation, the City of Goose Creek, the Summerville Commissioners of Public Works, and the Moncks Corner Public Works Commission. All four municipal customers are growing now and projecting that growth to continue, with Berkeley County leading the way.

Berkeley County is among the fastest-growing counties in South Carolina and in the country, census data shows. And that was before the first home was built in Nexton, Cane Bay or Carnes Crossroads – three major residential developments under construction that could add as many as 75,000 new people to the county.

Berkeley County is also home to the new Volvo Cars manufacturing plant. Now under construction, the plant is expected to employ 2,000 people initially and could grow to twice that size. The Volvo plant is adjacent to Camp Hall, a commerce park Santee Cooper is developing with nearly 2,000 acres available for industrial activity. And there are several other industrial commerce parks actively recruiting large industry to Berkeley County. Future expansion of the Moultrie transmission pipe system will deliver water to this area.

With all this activity, the ongoing water plant expansion is good news, but it isn’t enough. Driven by Berkeley County’s growth, the Moultrie system’s demand is projected to exceed that 40 mgd capacity by 2020. And so plans are underway for another expansion that would increase the Santee Cooper water system to 54 mgd, add a third above-ground clear well and a fourth treatment train.

One big fan of the expansions underway and planned is Berkeley County Supervisor William W. “Bill” Peagler III.

“Berkeley County’s success and our partnership with Santee Cooper go hand in hand,” Peagler said. “Water is crucial to our growth and economic prosperity. Without it, you aren’t going anywhere. If you can’t provide potable water service to a developer or a business, they’re not going to look at you.”





Beyond industry, good drinking water is critical to quality of life, Peagler added. “We’re pleased that Santee Cooper recognizes the need, and is striving to serve our growth with safe, reliable drinking water for everyone.”

LAKE MARION REGIONAL WATER SYSTEM

Santee Cooper’s newer water system is the Lake Marion Regional Water System, which opened in 2008 with a permit to produce up to 8 mgd. Serving the Lake Marion Regional Water Agency, the system currently provides water to three agency members: the Town of Santee, Calhoun County and Orangeburg County. Other members include Dorchester County and Berkeley County Water and Sanitation, which will be served by system expansions.

During the April 2008 dedication of the Marion plant, speakers praised the persistence of U.S. Rep. James Clyburn in securing the funding to build the facility. Noting the plant’s importance himself, Clyburn called it a “tremendous day for the communities... that will ultimately benefit from the clean, safe drinking water this project will provide. Access to potable water is also a key component to attracting economic development to the I-95 corridor.”

Like the Moultrie system, the Marion plant saw banner growth in 2016, with an 11 percent increase in gallons of water treated and delivered compared to 2015 and a 50 percent increase in demand in the past four years. The Marion plant also set a demand record in August at 34.4 million gallons. In addition to being newer, the Marion system is smaller than the Moultrie plant, but it is growing quickly and preparing for additional growth as forecast by Clyburn nine years ago.

The U.S. Army Corps of Engineers oversaw construction of the original plant and continues

that role for new projects that are funded through federal grants. Currently, the Corps is working on the Dorchester reach, which will add several miles of transmission pipeline through Dorchester County close to Interstate 26. Future plans call for additional transmission pipeline to the other side of Camp Hall and near the Volvo plant.

AND IT TASTES GOOD, TOO

The Marion plant uses a membrane filtration system that works well for the more turbid water coming into Lake Marion near the plant’s intake pipe, a technology that was first in the state at the time it was installed. At the Moultrie plant, “we are fortunate to have such a large reservoir of very clean water, with very consistent water quality,” said Lynch, the water plants manager.

In fact, both water treatment plants have produced award-winning drinking water that has earned the designation of “Best Tasting” by the South Carolina Rural Water Association.

“Santee Cooper takes great pride in what we are doing for the communities we serve,” Lynch said. “We have good guidance from the agencies governing these plants. These are partnerships that are doing more than just delivering water. They are growing communities.”

At left: Construction crews work on the newest treatment module, which will help increase capacity to 40 mgd of water to meet the surge in water demand.

Sediment and impurities removed from the water before delivery (inset).





A little pre-race celebration is always on order on packet pick up day.



The sports center may be a rookie but it plays host to veteran events like the Myrtle Beach Marathon expo.

BY SUSAN MUNGO

PHOTOGRAPHY BY PAUL ZOELLER

The crack of the bat, the swish of the net, the sound of a “kill” on the hardwood. The vibrations as feet pound the floor and the roar of a rousing cheer. These all evoke the thrill and excitement of sports.

For the City of Myrtle Beach, there’s a thrill and excitement in helping business and the economy grow. And that’s exactly what’s happening at the Myrtle Beach Sports Center.



A SLAM DUNK

When you see the event schedule for the center, you may think it has been around for quite some time. But the venue is actually a rookie, only opening its doors in 2015. While the complex is still considered new, the love for sports along the Grand Strand is certainly not. In fact, a full slate of outdoor sporting events in the area was one thing that helped push the City of Myrtle Beach to build an indoor venue for sports tourism that would complement their busy, world class outdoor sports facilities.

The city was watching the sports tourism trend increase and saw the boom that was happening with their outdoor sites. At the same time,

they were looking for an opportunity to utilize acreage that had become available for purchase behind the Myrtle Beach Convention Center. The discussions about a convention center expansion led them to look at the feasibility of a sports center which would, in a sense, expand the center without duplicating it.

According to Mark Kruea, city information officer for the City of Myrtle Beach, “things moved quickly once the decision was made to move forward with construction on the Myrtle Beach Sports Center. In fact, idea to completion was only about two years.”

The city purchased the land with the help of state grant money and they helped fund the facility with accommodations tax dollars. The center is now a 100,000 square foot state-of-the-art facility that has open court space for eight high school basketball courts, four collegiate /NBA courts, 16 volleyball courts, a viewing mezzanine, four flex rooms, an indoor/outdoor café and a Smart Room, which provides all the audio and visual equipment you need to make giving a presentation trouble free. There are also an additional 500 parking spaces that can be used for both the sports center and convention center events.

The city owns the building and the land but pays a third-party administrator, Sports Facilities Advisory’s management division (SFM), to handle event scheduling, concessions and revenue for the complex.

Revenue is one important element of the Myrtle Beach Sports Center. The city had originally projected to show a loss into the third year of operation, but most recent projections now forecast a profit in that third year. That is good news for a city that has invested dollars and facilities in the growing sports tourism market.



The sun sets on another day of exciting events and competition at the Myrtle Beach Sports Center.

The spacious sports center can easily accommodate large exposition events.



The Courtside Café gives athletes and spectators fuel for the next game or match.



John Rhodes is more than just the mayor of Myrtle Beach. He is also the self-proclaimed “godfather of sports tourism” for his early support of additional facilities in the city. “Myrtle Beach is probably in the top five sports tourism destinations in the country now, and we are looking to expand and grow our facilities even more. In the last 10 years, we’ve gone from \$20 million in economic impact to \$187 million per year in 2016. One big advantage we have is the Atlantic Ocean. Having the beach right there gives families something to do other than just sit in their hotel rooms,” said Rhodes.

Hotel, motel and resort operations, as well as restaurants and other businesses along the Grand Strand, are seeing additional revenue as a result of the influx of athletes, their family members and sports enthusiasts who come

to cheer them on. All of those people need somewhere to stay and eat. Many will also enjoy some of the other things Myrtle Beach has to offer while they are in town.

Mark Beale with SFM said their group partners with area businesses and often will have discount packages available for the athletes and their families.

“We partner with restaurants and other locations to drive business to them while these athletes are in town. We see it as a service to the business and those attending the events at the Sports Center,” said Beale.

Shaun Walsh, past president of the 20-year-old Myrtle Beach Marathon, has seen sports tourism explode in Myrtle Beach during that time.

The marathon and expo, which was housed in the center for the last two years, brings 7,000 to 10,000 race participants to the Grand Strand for one weekend. Most will make their way to the sports complex during the Thursday and Friday leading up race day.

“What began as an off-season tourism builder has turned into an annual event that has about a \$4 million impact on the area every year,” said Walsh.

It is apparent the Myrtle Beach Sports Center was a well thought out idea that is helping create revenue for the city and businesses in the area. But what is in it for the kids, athletes, coaches and parents who participate in the events there?

Cheerleading competitions now bring some of the largest crowds to the center, but the city will tell you that volleyball may have been the one sport that really gave the green light on moving forward. And it has not disappointed. There are several large club and travel volleyball tournaments that take place in the sports center each year.

Martha and Jodi Davis help run the Grand Strand Juniors Volleyball Club, which hosts at least one tournament each year. They also have a daughter on the club team.

“Playing in a facility of this caliber brings in large teams from other areas,” said Martha. “That draws college coaches out to view players who would not be seen otherwise.”

The Myrtle Beach Sports Center rolled out the red carpet for gymnasts in March.



The hardwood floor used for basketball games and volleyball meets can be transformed to a soft spring floor for gymnasts' barefooted routines.



FOR INFORMATION ON EVENTS OR TO FIND OUT HOW THE MYRTLE BEACH SPORTS CENTER CAN BENEFIT YOU, GO TO WWW.MYRTLEBEACHSPORTSCENTER.COM.

Martha said that one look can turn into an opportunity to play at the college level, which would be a huge benefit to the athlete and parent, making all the practice, travel and playing time worth it.

Brandy Seaus is a volleyball mom from the Greenwood area. Her daughter is a 10th grader who plays on her high school volleyball team

and has played club volleyball for four years. She played in the Myrtle Beach Sports Center for the first time in February.

"This is the largest facility we have played in and it is exciting," said Seaus. "We are investing the time to travel to venues like this to help build my daughter's skills and make her a better player."

Preya Simmons, a 10th grader on the Islanders Volleyball team out of Charleston, said she loves the center because it has great equipment and has space for family and fans to watch. "I got volleyball fever by watching my sister play here," said Simmons.

Gymnastics is another popular sport at the facility. Thomas Gymnastics, a family-owned company based in Rock Hill with a location in Myrtle Beach, recently hosted the Coastal Classic Gymnastics Invitational at the sports center. That gymnastics competition brings in as many as 1,700 gymnasts that range in age from 5 to 18 years old.

"This is one of the largest competitions on the East Coast," said Garrett Murray. Murray and his

wife Ashleyanne manage Thomas Gymnastics' beach location and bring the competition to the Myrtle Beach Sports Center.

"This facility is really a plus for our competitors who are looking to improve their skills. The coaches appreciate using the mezzanine level at the center because it offers a great view of their competitors as well as the competition," he said.

The Myrtle Beach Sports Center is home to other sports such as wrestling, archery and basketball, and many other hosted competitions, expos and trade show events. And it provides opportunities for children, athletes and rising stars to improve their game and showcase their talents.

In other words, **IT'S A SLAM DUNK.**

OYSTER SHELL RECYCLING

by Nicole A. Aiello
photography by Paul Zoeller



South Carolina Department of Natural Resources provides containers in public areas to encourage oyster shell recycling.

“He was a very valiant man
who first adventured on
eating of oysters.”

“The History of the Worthies of England”
by Thomas Fuller, 1662

Whether raw, on the half shell, steamed, fried or fire roasted, oysters are a popular delicacy in South Carolina and around the world. While slurping down these salty treats, you may only be thinking about how good they taste. Make no mistake; oysters do more than satisfy cravings.

Just ask Ben Dyar. As the manager of the state’s public shellfish grounds, oyster shell recycling and large-scale oyster renourishment program with the South Carolina Department of Natural Resources (SCDNR), Dyar knows there’s a lot more to loving oysters than the satisfaction of shucking and eating them.

“Oysters are very important for many reasons. Oysters offer an important environment for sea life, they have the ability to filter water and they help curb erosion,” said Dyar. “Everywhere you see a healthy oyster bed, you will see a healthy marsh behind it.”

Dyar said he’s had the pleasure of working for SCDNR for the past 13 years, first working in oyster research and oyster research management before moving on to his current position with SCDNR’s Shellfish Research Management Section, which monitors the state of oyster and clam resources, studies oyster reef ecology, develops and evaluates oyster restoration methods, and assesses the success of restoration efforts.

In South Carolina and many places in the Southeastern United States, oysters are primarily intertidal, meaning they’re covered by water during high tide and not under water at low tide. Although intertidal oyster reefs can occur in the middle of creeks and bays, where they are often called oyster “flats,” SCDNR said a large percentage of South Carolina’s oysters

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SCDNR



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After placing bags of oyster shells in a waterway near McLellanville, S.C., SCDNR employees count the bags placed in order to keep detailed records of the renourishment.

collect along the edges of tidal creeks where they form “fringing” reefs. Either way, oysters play an important role in the ecosystem.

“Oysters are a very valuable habitat to a whole host of organisms including crabs, fish, shrimp, snails, worms and gastropods. The more commercially and recreationally important species that utilize oyster reefs are red drum, flounder, spotted sea trout and shrimp,” said Dyar. “The larger predatory animals can find a high abundance of food within oyster reefs. The reefs also provide a three dimensional structure for smaller organisms to gather for protection and act as spawning grounds or nursery grounds for many important species.”

He also explained that the oyster shell recycling and renourishment program is necessary to properly manage South Carolina’s oyster populations.

“The shell we put out acts as a substrate, or cultch, material for the larval oysters to land on and create their own shell, which eventually creates an oyster reef,” he said. “If the larval oysters land in mud, they will die. They need a hard substrate to land on and attach themselves to so they can filter feed.”

As filter feeders, oysters are also natural housekeepers. They strain particles and small organisms out of the water by circulating them through their systems. In short, they clean the waters in which they live. According to SCDNR, one adult oyster can filter up to 2.5 gallons of water per hour. That could equate to more than 50 gallons per day depending on the tides.

“This improves our water quality, our water clarity and removes excess phytoplankton out of the water, which reduces the amount of harmful algal blooms,” Dyar said.

Oysters also act as erosion control barriers. Waves created by natural causes and boat wakes can wreak erosional havoc on intertidal areas. Oysters help curb that erosion, protecting the area from impacts of waves.

These are substantial reasons to protect and preserve the mighty oyster. And to do that, Dyar and his team work diligently on oyster recycling and renourishment. They also work in conjunction with the South Carolina Oyster Restoration and Enhancement Program (SCORE). SCDNR Wildlife Biologist II Michael Hodges manages SCORE, which is a community-based program that works with volunteers to restore and enhance oyster habitats by planting recycled

Volunteers from Old Dominion University, College of Charleston and the local community tackle oyster renourishment one bag at a time as SCDNR employees Zach Bjur, John Black and Abi DelGiorno (in boat) assist and keep records.



oyster shells in the intertidal environment to form new, self-sustaining oyster reefs. Hodges has been working with DNR and the SCORE program since 2002.

“We all work hard on oyster restoration,” Hodges explained. “The difference is where we complete restoration and construction with the help of volunteers.”

Dyar and his group work specifically in areas open for public harvesting of oysters. Hodges and SCORE work in areas other than public harvest grounds. Both Dyar and Hodges manage small teams, so volunteers play a critical role in the success of SCDNR’s oyster efforts, doing

everything from bagging oyster shells to oyster reef construction.

With oyster populations in decline, this is more important than ever. Declines in oyster populations are associated with adverse effects on other species, reduced water quality and changes in ecosystem dynamics. Volunteers are educated on the value of oysters to the estuarine ecosystem in hopes they will make better educated decisions on ways they can help to slow that decline and become better stewards of the environment.

“My passion for the SCORE program runs deep and is reinforced by having the opportunity to



Opposite page, clockwise from bottom left: Trent Austin with SCDNR pulls bags of oyster shells from a trailer and volunteers help load them on a boat for renourishment. More than 250 bushels of oysters were steamed and served at the Shuckin' in the Park event at Old Santee Canal Park in Moncks Corner. A steamed oyster is shucked and ready to eat. An oyster shell recycling trailer was provided to the park for the event.

get thousands of people involved annually in a program that provides opportunities on so many levels, including creating positive impacts on the environment. We want to empower the people to make a difference in their environment,” Hodges said. “The success of the program is totally dependent on volunteers. They are the driving force behind SCORE. We couldn’t accomplish a fraction of the work that we have without their participation over the years.”

According to Hodges, each year since 2010 the program has deployed more bags and worked with more volunteers than the year before.

“This is rewarding because it means that SCORE is continuing to grow,” he said. “We hope this trend continues moving forward.”

During the 2016 season, more than 4,900 volunteers donated over 10,000 hours of service to help with the various volunteer activities SCORE offers. These include bagging oyster shells, constructing oyster reefs, recycling oyster shells, raising and transplanting marsh grass, monitoring water quality and sampling fish populations. Since 2001, the SCORE program has worked with more than 29,000 volunteers who donated more than 73,000 hours of service.

Many others are doing their part, too. At Old Santee Canal Park in Moncks Corner, oyster lovers enjoyed buckets of these briny bivalves during the annual Shuckin’ in the Park oyster roast on March 11. Brad Sale, education coordinator for Old Santee Canal Park, said oyster shell recycling is on the minds of park employees before, during and after the event.

“It’s important for us to help with the collection and recycling of the oyster shells we use at the festival because we understand the importance of oyster bed renourishment,” Sale said. “As part of SCDNR’s SCORE program, we request



Signs identify areas where oyster renourishment is in place.

two trailers in advance for the oyster roast. The empty trailers are delivered Friday, festival-goers enjoy the oysters on Saturday, and then SCDNR picks up the trailers full of shells on Monday. We go through more than 200 bushels of oysters at the event, and we aim to recycle 100 percent of those.”

Dyar said helping the public, including those hosting small and large-scale oyster roasts, understand the significance of recycling oyster shells is of the utmost importance.

“We want the public to know how and why they should recycle their shells,” Dyar explained. “To properly manage our state’s oyster grounds, we currently plant more shell than we recycle, which forces us to purchase shell from out-of-state sources. These sources are getting scarcer and more expensive.

“This program would not be possible without the citizens recycling their shell, and we need their help to sustain the future of this program and our oyster populations.”

Santee Cooper residential customers more satisfied than utility customers nationally

According to a 2016 survey conducted by MarketSearch, residential customers gave Santee Cooper an overall customer satisfaction score of more than 97 percent. This was higher than the national average of around 90 percent.

Other high marks for Santee Cooper came in quality of electric power at 99 percent of customers satisfied, restoring power quickly after outages and keeping power outages to a minimum, both at nearly 98 percent satisfaction.

Santee Cooper customers say they are 99 percent satisfied with Santee Cooper's quick responses to questions and problems and 96 percent satisfied with the utility's care for customers. Santee Cooper is also particularly strong with respect to rates, customer service and reliability.

MarketSearch President Frank Brown said he sees a consistently high level of satisfaction, year in and year out, with Santee Cooper residential customers.

Demolition of Jefferies Generating Station

Santee Cooper awarded the contract for the demolition of Jefferies Generating Station near Moncks Corner to DEMCO Inc. in February and work is ongoing.

The dismantling of Jefferies' two 300 ft. stacks will take place through June. Because of the proximity of transmission lines, the hydroelectric station and the Tailrace Canal, the stacks are being disassembled mechanically from the top down using a hydraulic tool, called a stack muncher, for crushing and cutting the stacks' concrete columns and brick liners.

The turbine building is also being dismantled and will be followed by the boilers and cooling towers from July through December. The warehouse area will be demolished in January 2018.

Crews are scheduled to work five days a week, 10 hours a day (during daylight hours), and noise from the site is expected to be minimal. Once the demolition is completed, the ground will be layered with soil, graded and covered with grass. The process is expected to be complete in the winter of 2018.

Jefferies Generating Station's two coal-fired units were retired Dec. 31, 2012, and two oil-fired units were retired Oct. 1, 2015. The Jefferies hydroelectric units will continue to operate.

Green Power and RBC Heritage: A perfect pairing for nine years

Palmetto Electric Cooperative and Santee Cooper once again teamed up with the RBC Heritage Presented by Boeing to power the 2017 tournament with 100 percent Green Power, making the RBC Heritage and Green Power the perfect pairing for the environment and South Carolina for nine years in a row.

RBC Heritage purchased Santee Cooper Green Power from Palmetto Electric Cooperative for the duration of the 2017 tournament, which was held April 10-16 at Harbour Town Golf Links on Hilton Head Island. The tournament was the first major Green Power event in the state, back in 2009.

Santee Cooper generates Green Power from clean, renewable energy sources including landfill biogas, solar power and wind power within South Carolina. In fact, in 2001 Santee Cooper became the first utility to generate Green Power and offer it for sale in South Carolina, and Palmetto Electric Cooperative signed on as one of the first cooperatives in the state to offer Green Power to its members.



2016 was a good year for economic development

For decades, Santee Cooper has worked jointly with the electric cooperatives on economic development initiatives, offering loans, grants and attractive incentive rates.

These programs also assist with infrastructure and the construction of speculative buildings in the service territories of Santee Cooper, co-ops and municipal electric utilities served.

Collectively, 2016 efforts allowed Santee Cooper and the electric cooperative’s power system to add 43 location announcements, \$830.6 million in capital investment and 5,006 new jobs.

Santee Cooper added nearly 3,000 customers last year

Santee Cooper added 2,723 residential and commercial customers last year, continuing a trend of steady growth in the direct-serve territories in Berkeley, Georgetown and Horry counties.

That number, as of Dec. 31, 2016, totaled 176,748 customers. In 2015, a total of 2,456 customers were added and in 2014, that number was 2,754.

“We continue to see a steady increase in retail customer growth over the last several years,” said Mike Poston, vice president of retail operations. “We will continue working to enhance every aspect of our retail services to ensure we continue to excel at meeting the needs and expectations of this growing customer base.”

PowerSource magazine cited as “Notable State Document”

PowerSource, Santee Cooper’s quarterly corporate magazine, was awarded a 2016 Notable State Document Award by the South Carolina State Library. Public Relations Director Nicole Aiello, the publication’s editor, accepted the award on March 17 in Columbia.

The South Carolina State Depository System annually selects 10 notable publications that were released in the past calendar year. Librarians representing selected depository collections serve as judges and the awards are announced in honor of Freedom of Information Day.



Competitors and spectators enjoyed Lineworkers Rodeo

Santee Cooper Lineworkers Rodeo was held at the Horry Georgetown Technical College Lineworker Training Site in Conway on April 1.

Lineworkers who competed were from Santee Cooper and five electric cooperatives, including Berkeley, Blue Ridge, Horry, Palmetto and York. The event offered exciting competition among Journeyman teams and Apprentices, and included kids’ events, food vendors, and visits from Santee Cooper’s GOFER and Horry Electric’s Willie Wiredhand mascots.

- Overall winners in the Journeyman division were:
- > First place: Chad Williams, Dow Hardee and Joe Sawyer (Santee Cooper)
 - > Second place: William Burbage, Mark Milovich and Wesley Mason (Berkeley Electric Cooperative)
 - > Third place: Jake Murray, Tyler Davison and Travis Wiggins (Santee Cooper)

- Overall winners in the Apprentice division were:
- > First place: Lucas Elston (York Electric Cooperative)
 - > Second place: Aaron Hughes (Santee Cooper)
 - > Third place: Jamie Anderson (Santee Cooper)

Congratulations to all who competed. For a full list of winners, visit www.santecooper.com/rodeo.





EmPowering new business

Before the first aircraft flew, and before people showed up to their new job, Santee Cooper helped power **Executive HeliJet's** expansion to Myrtle Beach, creating a \$1 million economic partnership for South Carolina.

Since 1988, we've been a driving force behind more than \$11 billion in industrial investments that have produced over 67,000 new jobs. And we're not slowing down. With our low-cost, reliable power, creative incentive packages and diverse property portfolio, Santee Cooper, working with the South Carolina Power Team and the state's electric cooperatives, continues to power South Carolina toward **Brighter Tomorrows, Today.**



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